



South Texas Project Electric Generating Station P.O. Box 289 Wadsworth, Texas 77483

October 3, 2013  
NOC-AE-13003039  
10 CFR 50

U. S. Nuclear Regulatory Commission  
Attention: Document Control Desk  
Washington, DC 20555-0001

South Texas Project  
Units 1 and 2  
Docket Nos. STN 50-498 and STN 50-499  
Corrections to Information Provided in Revised STP Pilot Submittal and  
Requests for Exemptions and License Amendment  
for a Risk-Informed Approach to Resolving Generic Safety Issue (GSI)-191  
(TAC NOS. MF0613, MF0614, MF2400, MF2401, MF2402, MF2403, MF2404, MF2405,  
MF2406, MF2407, MF2408, AND MF2409)

References:

1. Letter dated June 19, 2013, D. W. Rencurrel, STPNOC, to NRC Document Control Desk, "Revised STP Pilot Submittal and Requests for Exemptions and License Amendment for a Risk-Informed Approach to Resolving Generic Safety Issue (GSI)-191" (NOC-AE-13002986, ML131750250)
2. Letter dated August 13, 2013, Balwant Singal, NRC, to Dennis Koehl, STPNOC, "South Texas Project, Units 1 and 2 - Acceptance of Requests for Exemptions and License Amendment Request for Approval of a Risk-Informed Approach to Resolve Generic Safety Issue GSI-191 (TAC NOS. MF0613, MF0614, MF2400, MF2401, MF2402, MF2403, MF2404, MF2405, MF2406, MF2407, MF2408, AND MF2409)" (ML13214A031) (AE-NOC-13002457)

This letter documents errors identified in Reference 1. The NRC Staff was verbally apprised of the errors in calls on September 23, 2013 and September 27, 2013.

In Reference 1, STP Nuclear Operating Company (STPNOC) requested exemptions from certain requirements of 10 CFR 50.46(b)(5), "Long-term cooling", and Appendix A to 10 CFR Part 50 General Design Criteria (GDC) 35, "Emergency Core Cooling", GDC 38, "Containment Heat Removal", and GDC 41, "Containment Atmosphere Cleanup". In accordance with the provisions of 10 CFR 50.90, STPNOC also requested an amendment to South Texas Project (STP) Operating Licenses NPF-76 and NPF-80, to revise the STP Units 1 and 2 licensing basis. Approval for the License Amendment Request (LAR) is expected to be contingent upon approval of the exemption requests.

In Reference 2, the NRC accepted the STPNOC application of Reference 1.

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STI 33761944

Reference 1 included Enclosure 4-3, "Risk-Informed Closure of GSI-191, Enclosure 4-3, Engineering (CASA Grande) Analysis". CASA Grande was developed to produce the basic event probabilities needed in the STPNOC Probabilistic Risk Analysis (PRA) to calculate the risk associated with effects identified in GSI-191. Enclosure 4-3 summarizes the analysis methodology and results.

Subsequent to the submittal of Reference 1, STPNOC discovered differences between the descriptions in Enclosure 4-3 and the CASA Grande analysis. The differences pertain only to the proposed risk-informed GSI-191 licensing application described in Reference 1 and do not affect current design basis calculations or impact operability at the STP Units 1 and 2.

In response to this discovery, STPNOC has taken the following actions:

- Entered the condition into the STPNOC Corrective Action Program (CR 13-10732).
- Briefed the NRC staff in calls on September 23, 2013 and September 27, 2013.
- Performed a detailed comparison of the descriptions in Enclosure 4-3 and the CASA Grande analysis to assure the differences have been identified and assessed.
- Reviewed other parts of the Reference 1 submittal to assure that the extent of condition is addressed, including the following compensatory action with other GSI-191 vendors:
  - Apprised the vendors of the condition and reinforced expectations regarding accuracy of information
  - Required the vendors to review their scope of information and process to assure accuracy

Differences were identified that will require a re-quantification of the PRA due to changes in the basic event probabilities from the supporting analysis described in Enclosure 4-3. STPNOC will perform required PRA and submit a supplement to Reference 1 by November 15, 2013. See licensing commitment in Attachment 2 to this letter. There are no other commitments in this letter.

A description of the assessment process and the results of the comparison are attached and have been discussed with the NRC staff.

If there are questions regarding this submittal, please contact Ken Taplett at 361-972-8416, or me at 361-972-7867.



D.W. Rencurrel  
Senior Vice President, Operations

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#### Attachments

1. Assessment Process and Results
2. List of Commitments

cc: (paper copy)

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## **Assessment Process and Results**

### **Assessment Process**

STPNOC discovered differences between the descriptions of the CASA Grande analysis input in Enclosure 4-3 of the June 19, 2013 licensing submittal (Reference 1) and the actual input to the CASA Grande analysis.

The differences did not indicate an issue with the methodology used in the CASA Grande analyses. STPNOC's evaluation consequently focused primarily on reconciling the differences between the CASA Grande inputs and their description in the submittal, with the goal being to develop corrections that STPNOC will submit in a supplement that will correct the docket for the licensing application. Based on this intent, STPNOC's review process had two key elements:

1. Assuring that the differences between the CASA Grande analysis and the description in Enclosure 4-3 of the STPNOC application were identified and addressed.
2. Determining if the condition extended to other parts of the application.

### **Identification of Differences in the Enclosure 4-3 Documentation of STP Risk-Informed Resolution Submittal**

STPNOC elected to systematically identify and disposition differences that are found through the following two-step process: (1) line-by-line comparison of numeric input in the CASA Grande input files to the tabular information provided in Enclosure 4-3, and (2) subject-matter-expert review of the Enclosure 4-3 modeling assumptions with CASA Grande implementation. This quality assurance review is designed to reveal the following generic types of differences:

- a) Intentional CASA Grande input that conservatively increased the reported quantitative risk relative to Enclosure 4-3 descriptions.
- b) Analysis input described in Enclosure 4-3 that is not fully implemented in CASA Grande,
- c) Analysis input in CASA Grande that is not precisely described in Enclosure 4-3,
- d) Errors in CASA Grande input caused by misinterpretation of information or mistaken transcription.
- e) Errors in Enclosure 4-3 tabular data caused by misinterpretation of information or mistaken transcription.
- f) Errors in CASA Grande model implementation,
- g) Errors in Enclosure 4-3 model description.

The primary focus of this review is to identify differences between the CASA Grande analysis and its description in the docketed application (i.e. Enclosure 4-3) so corrections can be made to assure an accurate representation of the analysis results is presented for review. The nature of the differences did not indicate the need for re-verification or validation of the methodology itself.

Identified differences are logged and dispositioned prior to risk re-quantification using a staged evaluation process.

## Description of Enclosure 4-3 Review Process

Comparison of Enclosure 4-3 documentation to the CASA Grande input was conducted in two phases:

Phase I: Initial screening by two staff engineers to note any observations of perceived inconsistencies.

This review was conducted over the entire input section of Section 2.2 of Enclosure 4-3. Some observations were duplicated for completeness; some observations were resolved by information found later in the document; however, a master list of observations was compiled without deleting any items for confirmation and resolution in Phase II.

Phase II: Committee review of initial observations and the entirety of Enclosure 4-3 to confirm actual findings and add new findings.

This review was conducted over a 5-day period where review actions were recorded and tracked for the purpose of quality assurance traceability. Technical discussions of each initial observation revealed additional action items that were recorded and assessed for disposition. Each item is recorded and tracked to final resolution. The systematic review was conducted from two perspectives:

- a. Sequentially walking through Enclosure 4-3 and verifying input values and implementation in CASA Grande
- b. Sequentially walking through CASA Grande and verifying model input matched the description in Enclosure 4-3.

Limited initial comparison of numeric values between Enclosure 4-3 and source references (engineering calculations and precursor analysis reports) revealed one transcription error. Because of this finding, numeric input adopted in Enclosure 4-3 will be reviewed with source references. Deeper levels of confirmation will not be pursued unless specific items are identified.

Objectives of the review included:

1. Identifying differences between Enclosure 4-3 documentation and CASA Grande input files
2. Confirming the validity of identified differences.
3. Assessing the options for changing either Enclosure 4-3 documentation or CASA Grande input to achieve agreement between documentation and the analysis input.

The following logic was applied:

- a. Correcting any confirmed errors
- b. Addressing any identified non-defensible approaches
- c. Minimizing changes to CASA Grande input with a preference toward correcting Enclosure 4-3 for accuracy and preserving existing conservatism in quantitative input.

### **Results Enclosure 4-3 Review**

STPNOC documented the observations that were recorded during the review. Each of the observations was assigned one of three categories:

1. a change is recommended for CASA Grande input.
2. a change is recommend for documentation in Enclosure 4-3, or
3. no change is recommended for either Enclosure 4-3 or CASA Grande input.

Specific information regarding these observations, their assigned categories and their expected resolution was separately provided in a briefing to the staff on September 27, 2013.

Differences were identified that will require a re-quantification of the Probabilistic Risk Analysis (PRA) due to changes in the basic event probabilities from the supporting analysis described in Enclosure 4-3. The re-quantification will also require revision to other parts of the STPNOC application (e.g., Enclosure 4-2 describing the PRA results).

STPNOC will provide the details of the resolution of this issue in the supplement to STPNOC application (Reference 1 of the cover letter).

### **Evaluation of Extent of Condition**

Extent of condition is being evaluated in accordance with STPNOC's corrective action program to determine if similar conditions existed for information provided for Reference 1 by other GSI-191 vendors. Actions taken to assess extent of condition include the following:

1. Current vendor controls established to satisfy quality requirements for the GSI-191 project were documented.
2. Vendors were required to assess current controls relative to work performed to determine if similar conditions exist for their respective documents, analyses, or other reports.
3. Vendors were required to review their scope of information provided for Reference 1 for any differences in documentation and associated analyses.
4. Results of vendor assessments will be documented and attached to the corresponding condition report action.

At the time of the calls in which the NRC staff was briefed, STPNOC had not identified any similar conditions in the information provided by the other GSI-191 vendors. Two vendors have subsequently apprised STPNOC of potentially incorrect input for some CASA Grande break frequency calculations and the subsequent RISKMAN© quantification. STPNOC will evaluate this in accordance with the categorization process described in the Results section above and include their resolution in the supplement as described above. STPNOC will also promptly apprise the NRC if any conditions identified in the extent of condition review are considered likely to affect the conclusions in the Reference 1 licensing application.

### List of Commitments

The following table identifies the actions to which STP Nuclear Operating Company (STPNOC) has committed. Statements in the submittal with the exception of those in the table below are provided for information purposes and are not considered regulatory commitments.

<b>Commitment</b>	<b>Tracking Number</b>	<b>Scheduled Completion Date</b>
STPNOC discovered that the description of the CASA Grande analysis in Enclosure 4-3 of NOC-AE-13002986 did not match the actual CASA Grande analysis input in some areas. Correction of several of these differences will require a re-quantification of the PRA due to changes in the supporting analysis (CASA Grande). STPNOC will perform that analysis and submit a supplement to the licensing application submitted in NOC-AE-13002986 by November 15, 2013. The supplement will also include a description of the changes required to resolve the differences that were identified between the CASA Grande analysis and the description in Enclosure 4-3.	CR13-10732-18	November 15, 2013